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OPERATION OUTDOORS

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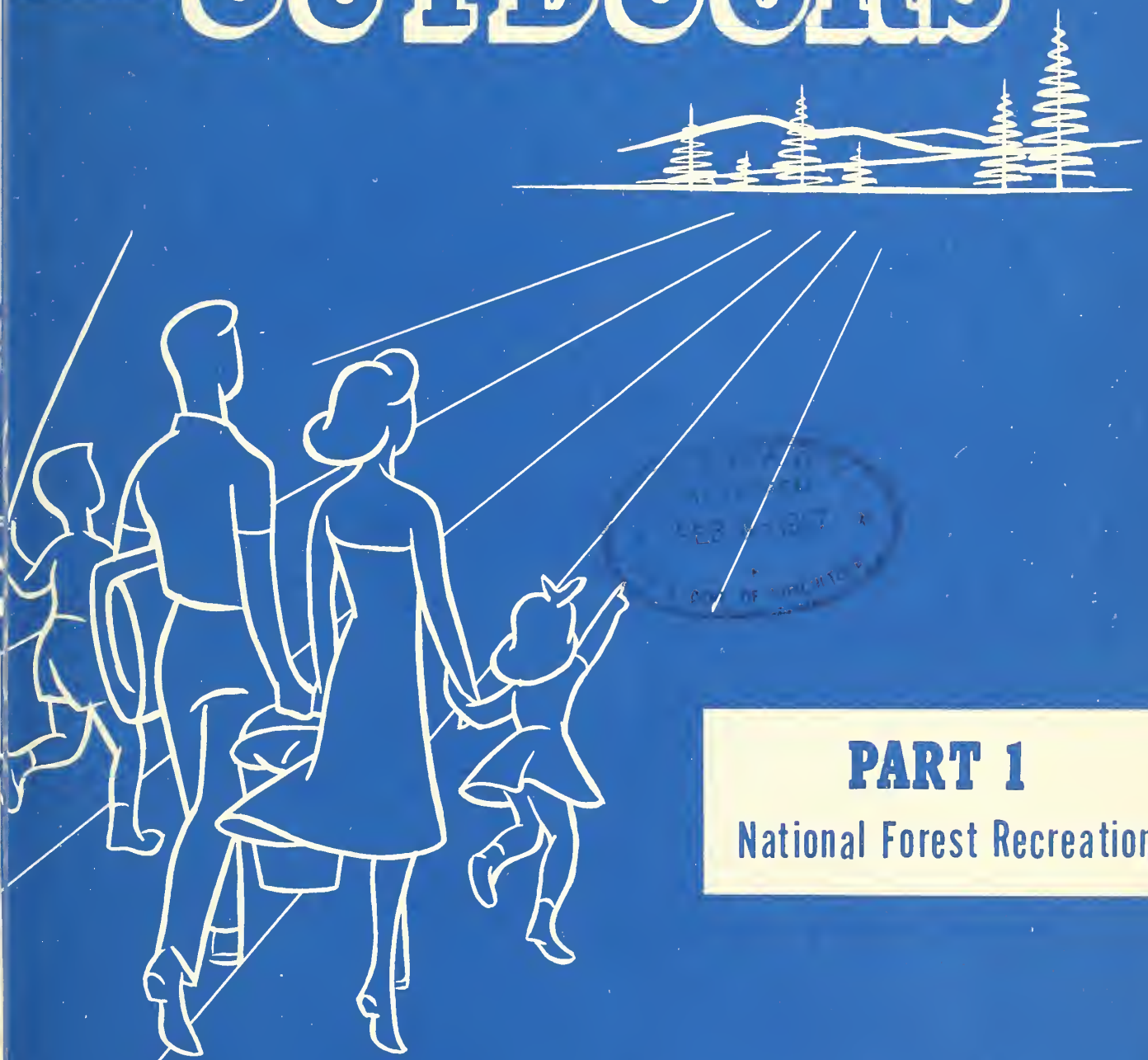

PART 1

National Forest Recreation

U. S. DEPARTMENT OF AGRICULTURE - FOREST SERVICE

PREFACE

The national forests furnish water, recreation, wildlife, timber, forage, and minerals from lands carefully managed as multiple-use public properties. These natural resources are vital to America's industry and people. To most of our citizens, recreation brings the only direct and personal contacts with the national forests. Everyone benefits indirectly from the other national-forest resources, but millions of people personally know and love some spot in the national forests—a fishing stream, a mountain trail, a forest camp, a secluded hunting area, a ski slope, a skyline drive, or a magnificent view.

The American people are seeking more outdoor recreation opportunities. As this type of recreation continues to grow, nationwide, its upsurge is felt by every segment of the Nation's economy. National forest recreation is an important part of this booming industry.

In 1955 the national forests received over 45½ million visits for recreation—four times as many as 20 years ago. One-fourth of the visitors were hunters and fishermen; the rest came to camp, picnic, swim, hike, ride, ski, enjoy the scenery, or just to relax. National-forest camp and picnic grounds, however, couldn't stretch enough to accommodate this increase in use. Recreational facilities built in the 1930's have been deteriorating under the heavy wear and tear. In recent years the overflow of people has gone into unimproved areas where there are no sanitary facilities and no fireplaces. Streams that supply water to nearby towns and cities are threatened with pollution, and forest fire danger is increasing.

This situation has been building up rapidly and no letup is in sight. It will continue to intensify as the Nation's population increases, and as people find themselves with more time and money to spend and a greater desire for outdoor recreation.

The rising need for sufficient outdoor recreational outlets for the American people in the foreseeable future deserves a realistic appraisal. The Forest Service presents herein a comprehensive five-year action program for the proper development of recreation facilities on the national forests. It is a program geared to accommodate the Nation's growing demands for outdoor recreation—demands that are matched by mounting pressures for more timber, water, forage, and other national forest resources. This program aims at meeting the requirements of 66 million visits by 1962 and keeping up with the increased use as it occurs thereafter.

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"With the steady growth of our population, there is an increasing need for recreation under natural outdoor conditions. This is of major significance to the physical and mental health of the Nation."

President Dwight D. Eisenhower

OPERATION OUTDOORS

Part 1. National Forest Recreation

A 5-year program to modernize existing facilities and to provide adequately for the 66 million recreational visits expected annually by 1962

The Nation's 180 million acres of national forests are located in 38 States, Alaska, and Puerto Rico. These public lands are generally open to everyone who wants to visit or travel through them. They provide a variety of opportunities for forest recreation including hunting and fishing to serve the demands of a mid-1956 population of 168 million people.

Recreation, as an industry, now ranks third [1] in the United States, exceeded only by manufacturing and agriculture. Tourists spent more than 24 billion dollars in 1955.[1] This amounts to big business. National forests, with 45,713,000 visits in 1955, carried a big share of the Nation's outdoor recreation use. Many local communities and business enterprises within and adjoining the national forests are dependent on recreation activities. Many business firms, far removed from national forests, are closely related economically to the forest recreation resource because of the outdoor equipment and other goods they manufacture or supply to national forest users.

Recreation in the national forests contributes to the health and welfare of the Nation. Inspiration, enjoyment of the outdoors, and relaxation can hardly be evaluated in material terms, but their importance to the well-being of the people is well recognized and accepted.

What the Future Holds

Recreation visits to the national forests have increased at a much faster rate than the total United States population, as chart 1 shows. Recreation use is influenced not only by population levels but also by great improvements and extension of transportation routes, almost universal ownership of an automobile, higher standards of living, and more leisure time.

In fact, the projected trend of Gross National Product figures is probably a very good basis for predicting numbers of recreation visits to the national forests in future years. The Gross National Product, or total value of goods and services produced, is recognized as the best single measure of the economic health of the Nation. The relation of Gross National Product to total population in any one year is also a convenient measure of average family standard of living.

Chart 1 shows that Gross National Product has been rising much faster than the population, and recreation visits have been increasing still more rapidly. However, the predicted rate of increase in recreation use in future years approximately parallels that for Gross National Product.[2] Both of these projections are believed to be conservative, barring some great national catastrophe.

There are other general trends which indicate increased national-forest recreation use. An important factor affecting the magnitude of outdoor recreation activity is personal income available for discretionary spending. It is expected that average personal income (after taxes) will rise from the 1953 level of $1,567 to $2,062 in 1975.[3] On the basis of present indications, it is also generally believed that the average work-week and the average work-year will become shorter in the next several years; in other words, employed persons will have more nonwork days available in a given year. All of these trends, therefore, point toward more goods and services available, more leisure time for people to travel, and more money for them to spend on recreation.

Moreover, the expansion of highway programs, construction and improvement of more access roads, and large reservoir programs will create additional points of entry to the national forests and provide many more areas for general recreation and hunting and fishing. Many of these projects of the future will be within or adjacent to the national forests and will stimulate recreation use. This effect is already being felt in many national forests.

The obvious conclusion is that, barring another world war, future recreation use on the national

[1] Source: National Association of Travel Organizations.

[2] Projection of GNP is similar to that given by The President's Materials Policy Commission, "Resources for Freedom," 1952, vol. II, p. 111, and other authoritative sources.

[3] Timber Resources Review, ch. VI, p. 14. (Preliminary review draft.) Forest Service. 1955.

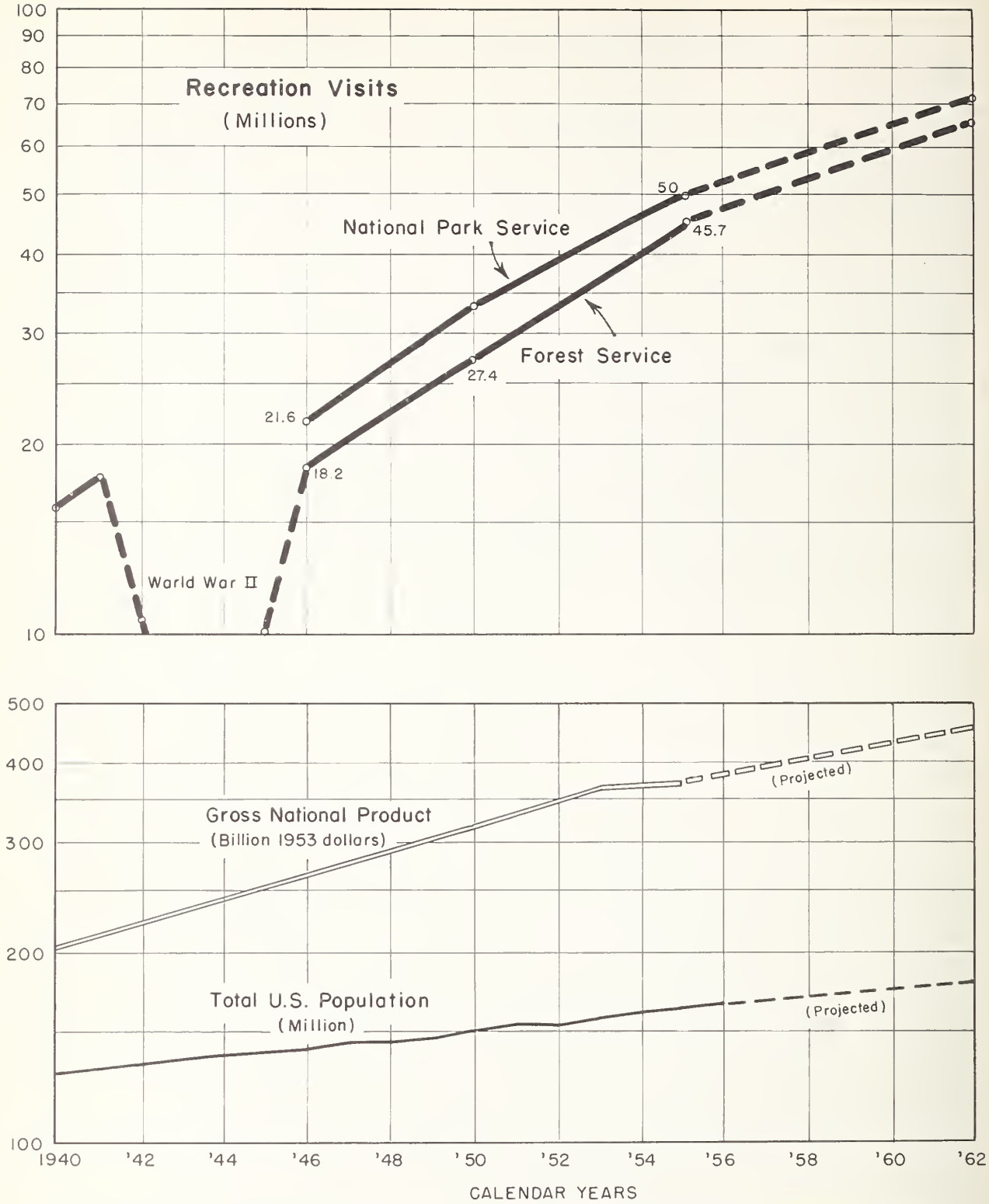

Chart 1.—Recreation visits, population, and gross national product—trends and predictions, 1940–62

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Outdoor recreation—a rapidly increasing part of American family life

forests will increase at a steady rate. Everything points to greater outdoor recreation use throughout the country, with national forests receiving a big share of that increase. It will take the combined resources of Federal, State, and private lands to meet the predictable recreation demands of the future.

Many States are embarking on programs to help satisfy the needs of people for outdoor recreation. California plans to spend $59,000,000 in the next 5 years to develop State recreation areas. Pennsylvania plans to spend $4,000,000 annually on State recreation areas.

The National Park Service "Mission 66" has been put in motion to accommodate present and future demand on the national parks. This program will create additional recreationist travel through, and use of, the national forests. To meet the impact of this increased use, the Forest Service will have to increase development and administration of recreation resources of the national forests, particularly those which adjoin national parks.

Estimates for the national-forest recreation program, to be presented later in this report, are based on a field survey of conditions and needs. In making the estimates, the probable assistance from States, counties, and municipalities has been taken into account for areas used largely by local people. A big majority of national-forest recreation areas are used largely by out-of-county people. States have full programs of their own to develop State parks, and cannot be expected to shoulder any major burden of national-forest recreation.

Present Condition of the Recreation Resource

Facilities of the existing national-forest recreation areas are inadequate to accommodate present and expected use.

Most of the 4,900 improved public recreation areas (camp and picnic areas, winter-sports, and swimming areas) in the national forests were constructed during the 1930's with emergency funds. The 1941–45 war prevented completion of the planned program. Deferment of maintenance during the war hastened the deterioration of facilities previously built. Many

large popular recreation sites have less capacity now than they had in 1941, because the facilities have worn out.

Funds available for sanitation and care of national-forest recreation areas in the postwar years have not kept pace with the increasing use. Lack of funds for maintenance and sanitation aggravated the unsatisfactory conditions resulting from a shortage of physical facilities.

Increased appropriations in 1956 gave some relief to a distressing situation. The still larger increase received in fiscal year 1957 enabled the Forest Service, for the first time since CCC days, to provide more nearly adequate sanitation, cleanup, and maintenance of the developed recreation areas. But funds available are still inadequate for the rehabilitation of facilities and construction of new areas needed to accommodate the present use without overcrowding.

Recreation use of the national forests in 1946 equaled the prewar peak year, and 7 years later, in 1953, it had doubled (chart 2). Since then the rate of increase has been still more rapid.

Overcrowding of recreation areas endangers public health and safety, as well as forest resources.

Recreation use of the national forests requires sanitary facilities, safe water, fire prevention improvements, and simple conveniences for the enjoyment of the visitors, protection of public health and safety, and protection and preservation of the forest.

As of 1955, facilities at camp and picnic areas had a safe capacity of some 17,600,000 man-days' use per season. They actually received 25,500,000 man-days' use—an overload of 39 percent. Even with the new facilities to be constructed with funds now available, the overload will go up to 61 percent by 1958 because of the greatly increased use.

The present overload is causing recreation areas to be worn out, accelerated deterioration of constructed facilities, and unsanitary conditions. Worst of all, it results in people using unimproved areas which lack sanitary facilities and fire prevention improvements. Besides, when recreation areas are overcrowded, many people are excluded and those who do crowd in cannot obtain full enjoyment.

Overcrowding of the developed areas and the resultant use of unimproved areas endanger the water supplies of nearby towns and cities; constitute a fire threat to valuable stands of timber, and a pollution

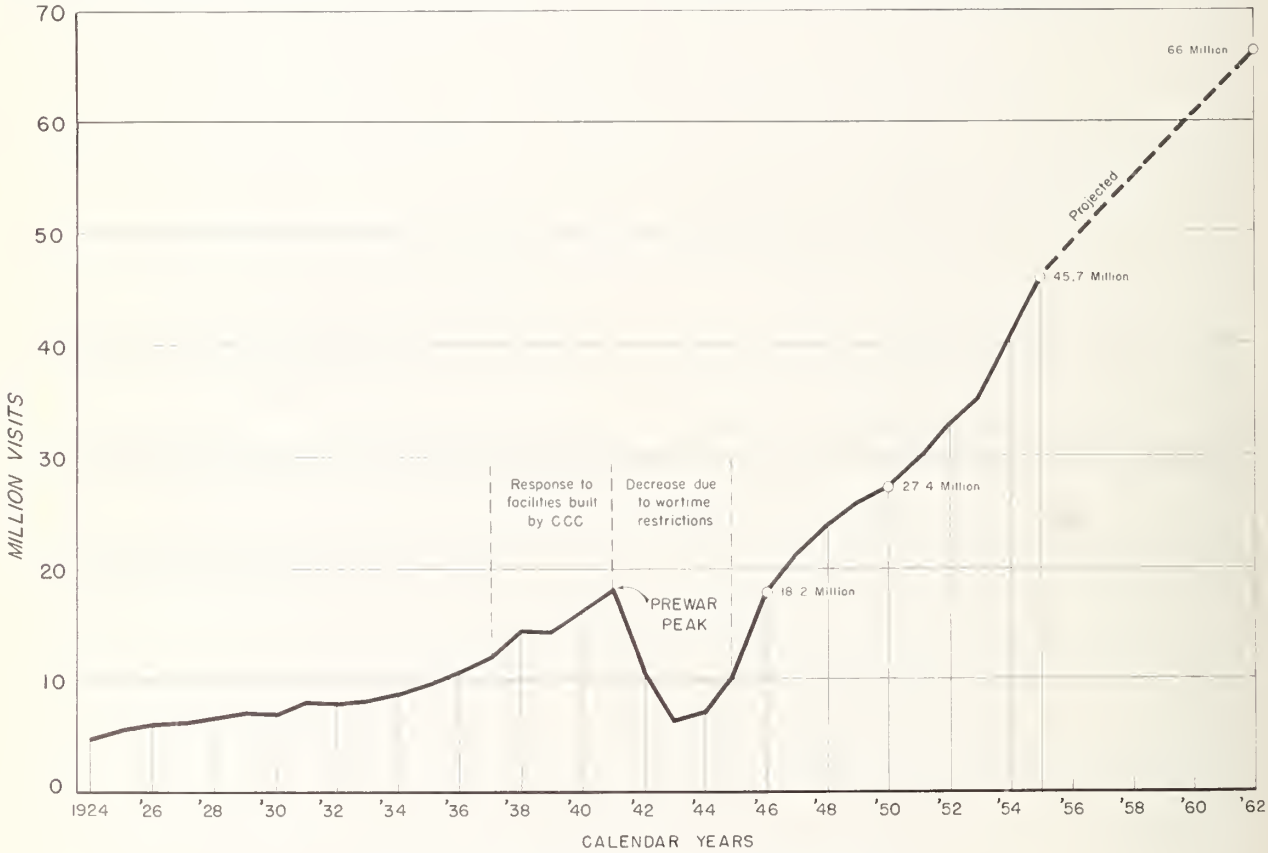
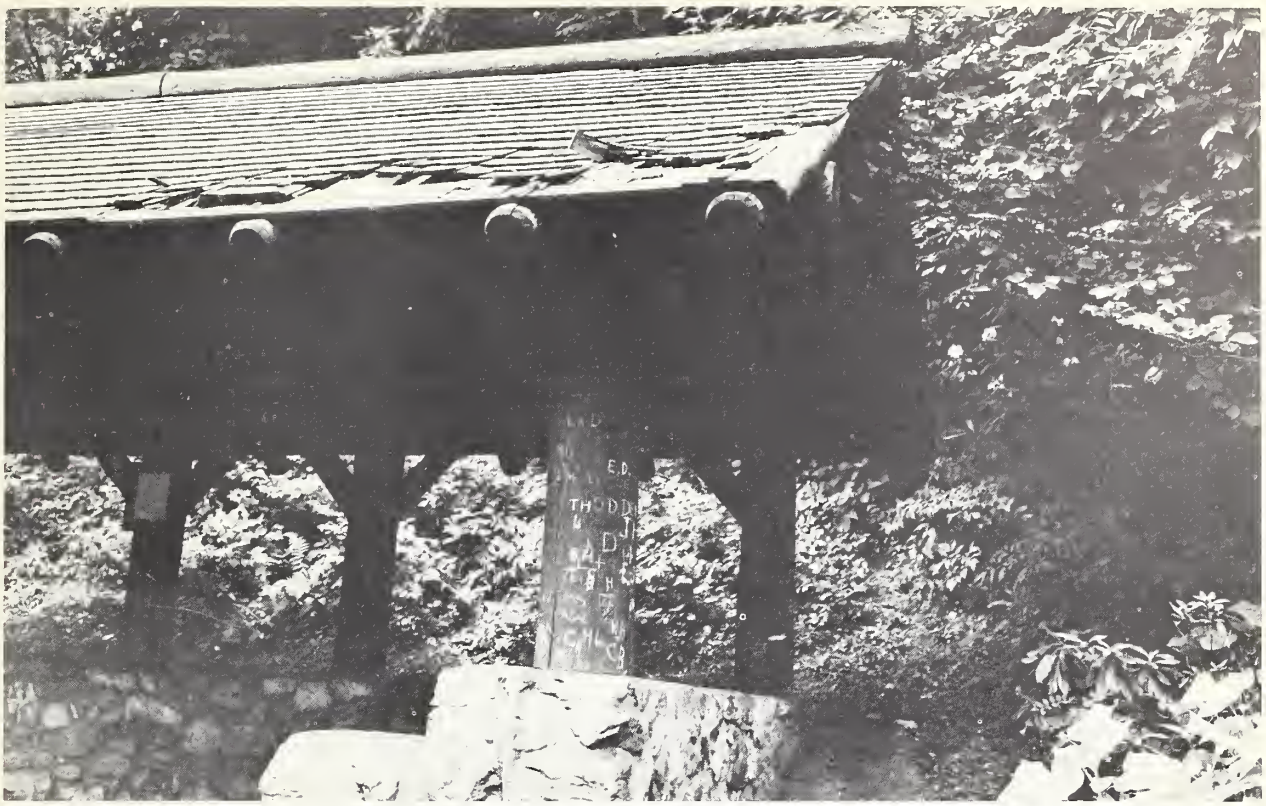
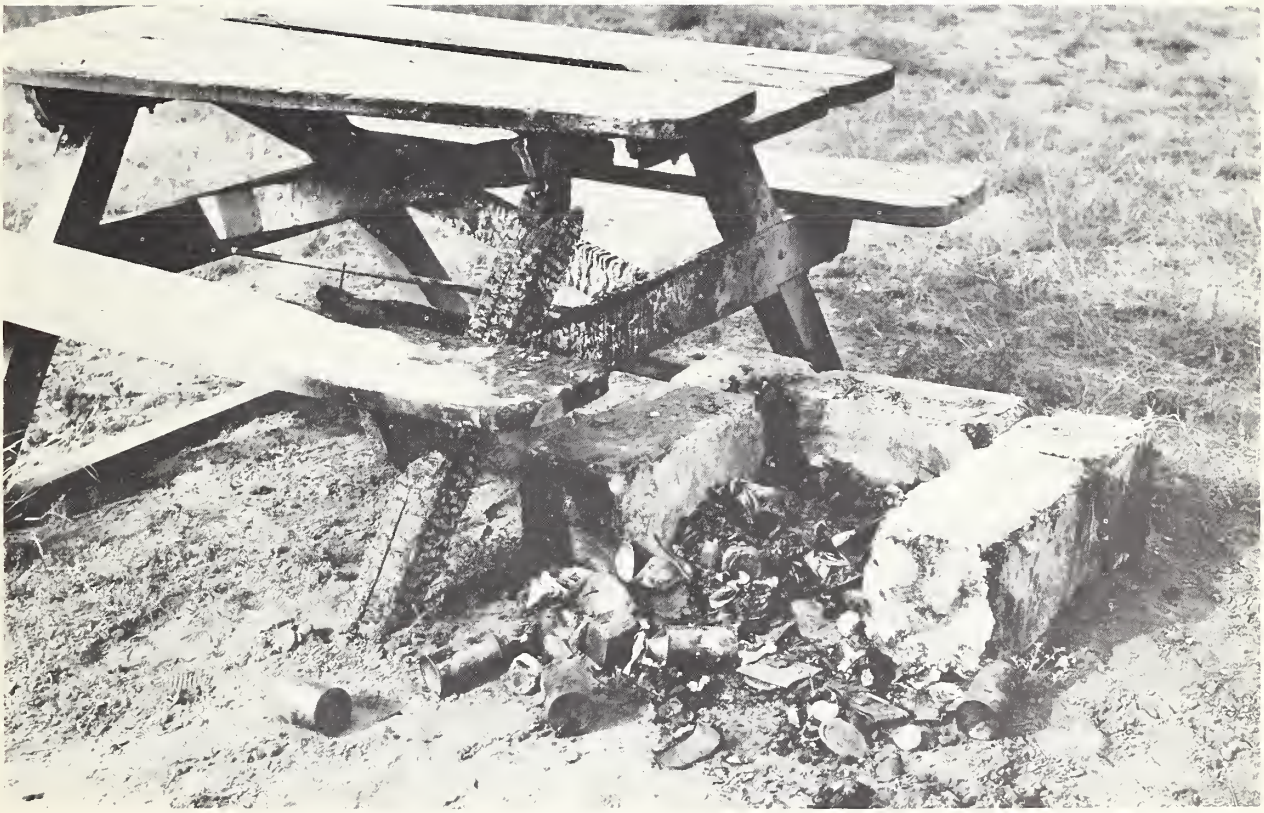


Chart 2.—Recreation use on the national forests





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Long years of recreation overload and lack of adequate supervision and maintenance encourage costly vandalism

threat to streams and lakes. Spread of human diseases and forest fires can result from these conditions. The potential damage to public health and public property could easily exceed the cost of adequate sanitation and care at public recreation areas. A single disastrous fire caused by one "roadside camper" who couldn't find space in a developed area in the big timber country has cost $500,000 to suppress, and in addition caused damages to timber, soil, and watersheds running into millions of dollars.

Five-Year Program For Recreation

A greatly increased program of management and development will be necessary to (1) catch up with the rapidly increasing use of national forests for general recreation, hunting, and fishing; (2) adequately correlate management of the recreation resource with the expanding use of other resources; and (3) develop additional recreation facilities to supply the demand as an integral part of a multiple-use program.

The following are goals to accomplish by 1962:

1. Rehabilitate *existing* recreation facilities so that they will be safe and usable.

2. Plan, develop, and install *new* areas to alleviate present overuse and accommodate future use as it develops.

Recognizing the need for carefully considered action to attain these goals, the Forest Service proposes a 5-year program for the fiscal years 1958–62, based on a field survey of conditions and needs.

Policies

The following policies were used as guides in developing the program and will be followed in putting it into effect in the field:

1. The recreation resources of the national forests will be made available for public use and enjoyment, insofar as this is consistent with the overall management of the national forests for the greatest public good. Their proper place in the management of the various resources will be determined through specific analysis and weighing of all relevant factors.

2. Public recreation areas and facilities suitable for forest-type recreation will be developed and maintained in sufficient number to accommodate public use in a safe and sanitary manner and without overcrowding, except for peak holiday or weekend use. This will include roads, trails, and back-country areas where patrol and cleanup are necessary.

3. Public recreation areas and facilities will be appropriate to the forest environment. Only facilities for forest-type recreation, such as camping, picnicking, skiing, swimming, hiking, and riding will be provided. Facilities for such types of recreation as spectator sports, golf, and tennis will not be constructed by the Forest Service.

4. Special services and facilities, such as large shelters, amphitheaters, ski warming shelters, utility connections for trailers, hot showers, electric lights, stove-length firewood, and clothes checking at bathhouses ordinarily will not be provided by the Forest Service at public recreation areas, unless it is practicable to make a charge for such services. Developments of these types will be left for private capital to provide wherever feasible.

5. Large, popular, public recreation areas that are in good condition and have special features or facilities will be operated as charge areas by concessioners where satisfactory arrangements can be made. The Forest Service will supervise the concessioner's operation, regulate the fee, and see to it that the area is kept in first-class condition by the concessioner.

6. Organization camps for youth groups ordinarily will not be constructed by the Forest Service, but public, semipublic, and nonprofit groups will be encouraged to develop and operate such facilities under special use permit.

7. Public service facilities, such as filling stations, restaurants, resorts, motels, ski lifts, ski tows, and boat docks will not be constructed or operated by the Forest Service. Competent concessioners will be encouraged to develop such facilities under special-use permit in locations where there is a public need for such facilities and services. The Forest Service will supervise such operations and the concessioner will pay the United States an equitable fee.

8. Roadside zones, trailside zones, and waterfront zones will be protected and preserved for public use and enjoyment. These zones will be kept in more or less natural condition and will be wide enough to preserve the forest environment along highways, roads, trails, streams, and lake shores that are important for public recreation use.

9. Wilderness, wild, and primitive areas will be protected and maintained in substantially primitive condition to accommodate public use. Existing primitive areas will be restudied and appropriate portions reclassified as wilderness or wild areas. Land-use studies will be made of other areas suitable

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Fifteen years ago, facilities were taxed far beyond capacity. Today overcrowding is even more serious

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Reservoirs constructed within national forests attract thousands of recreation visitors

for wilderness purposes and those primarily valuable for such use will be so classified.

10. General public recreation values, such as hunting, fishing, hiking, riding, and scenery, will be recognized in all resource management and necessary steps will be taken to develop and enhance such recreation opportunities wherever it is in the public interest to do so.

11. Preferential private recreation uses of national-forest lands, such as summer homes, may be permitted only where the lands are clearly not suitable or not needed for public use.

The Program

The five-year program (1958–62), required to meet the goals within the policy guidelines prescribed, is based on the existing situation and the foreseeable future. Numbers of units, use, and predictions are derived from statistical data and analyses. (A family unit consists of a table, fire grate, and parking spur.)

1. Capital investments needed to accommodate the 66,000,000 visits predicted for 1962:	
a. Rehabilitate 41,400 existing family units	$15, 200, 000
b. Construct 2,150 new areas with a capacity of 40,500 family units and other miscellaneous facilities	39, 200, 000
Total capital investment	54, 400, 000

Proposed expenditures for construction, operation, and maintenance are shown by years in the following table.

Fiscal year	Administration, supervision, and planning	Sanitation and cleanup, improved areas	Sanitation and cleanup, unimproved areas	Maintenance of facilities	Capital investment		Totals
					Rehabilitation	New areas	
1958	$1, 500, 000	$1, 500, 000	$500, 000	$1, 400, 000	$3, 600, 000	$3, 000, 000	$11, 500, 000
1959	1, 500, 000	1, 800, 000	500, 000	1, 400, 000	3, 600, 000	6, 700, 000	15, 500, 000
1960	1, 800, 000	2, 100, 000	500, 000	1, 800, 000	3, 100, 000	10, 200, 000	19, 500, 000
1961	2, 000, 000	2, 400, 000	600, 000	1, 900, 000	2, 900, 000	9, 700, 000	19, 500, 000
1962	2, 100, 000	2, 800, 000	600, 000	1, 900, 000	2, 000, 000	9, 600, 000	19, 000, 000
Total					15, 200, 000	39, 200, 000	85, 000, 000

The 5-year program will cost a total of $85,000,000. The cost of the recreation program for the subsequent 5-year period (1963–67) will level off to an average annual cost of $12,500,000 as compared to $17,000,000 (one-fifth of $85,000,000) during 1958–62.

How the Estimates Were Developed

The following steps were taken in analyzing the present national forest recreation use situation, projecting estimates of future use and financial requirements, for the proposed 5-year program.

1. On-the-Ground Survey

A field survey was made on all national forests to determine the following:

a. Condition of present areas and facilities and rehabilitation needs.

b. New facilities needed to accommodate present use in a satisfactory manner.

c. New facilities needed to accommodate expected future use, up to the end of fiscal year 1962.

d. Level of planning, supervision, and administration and maintenance of facilities needed to adequately handle the present and expected recreation use during the period covered.

The objectives of the survey were to find out (1) what was needed to take care of present and expected future recreation use in a satisfactory manner and (2) what it would cost.

2. Policy Guidelines

Policy guidelines were established to define the kinds of recreation which are suitable in the national forests, the types of facilities and services which should be provided by the Federal Government, those which should be provided by private capital under special use permit, and how recreation use should be planned and administered. (See p. 6.)

3. Predictions of Future National Use

This analysis did not include a separate detailed study of population, economic, and local factors which will determine the future recreation use trend on the national forests. The results of the extensive study of recreation use trends made by the National Park Service in connection with Mission 66 were applied in making recreation use predictions for the national forests. The use of the national parks and the national forests has increased similarly from 1934 to 1955. Other factors such as use-season, kinds of visitors, and geographical location pertaining to national parks and national forests are comparable. Therefore it is sound to assume that the rate of increase of recreation use projected by the National Park Service can be applied in estimating future national-forest recreation use. This projection is thought to be conservative since it is considerably under the rate of increase for the past several years.

Chart 1 in the body of this report shows the predicted recreation use on the national forests from 1955 to 1962, as compared to past use and to past and predicted national park use.

It has been assumed that future national forest and national park use will continue to follow parallel trends.

Chart 1 also shows a comparison of the past and predicted trends of United States population and Gross National Product. These indicate a growth of population and a greater growth in the economic vigor of the Nation. It is entirely reasonable to expect disposable personal income and leisure time to increase as Gross National Product rises at a faster rate than the population. It is also reasonable to expect a larger, more prosperous population to demand more outdoor recreation facilities and that the national forests will be subjected to a proportionate share of that increased demand.

Recreation use on the national forests increased much faster than either United States population or Gross National Product during the period 1946 to 1955, and the higher rate of increase predicted for 1955 to 1962 appears fully justified. It is noteworthy that the prediction for Gross National Product for 1956 will almost surely be below the actual figure and that the 9 months' use report for the national parks

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Americans value highly the opportunity to enjoy some favorite outdoor spot

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Special services and facilities, such as this ski lodge, are provided by private capital

in 1956 indicates that the prediction of some 54 million for 1956 will be appreciably low.

All criteria indicate that the prediction of 66 million recreation visits on the national forests in 1962 appears reasonable.

4. Predictions of Future Regional Use

Past records indicated that the increase in use by Forest Service regions has varied considerably. Although a detailed study was not made of population growth, economic conditions, availability of facilities, climate, and other local factors it is known that they influence the rate of increase in recreation use by regions.

In order that reasonably uniform results could be obtained, those factors were considered in relation to past increases by regions, and within the overall estimate of 66 million visits by 1962, each region was assigned a predicted use figure for 1962 (table 1, following) to be used as a guide in calculating needed facilities.

5. Regional Surveys of Facilities Needed

A survey was made in each Forest Service region in accordance with the policy guidelines, to determine the facilities and services needed to take care of recreation use in an acceptable manner. Each region was directed to stay within the limits prescribed by the estimates of future use for that region and to base its costs on defensible unit costs for facilities and services, unless deviations could be substantiated.

6. Review and Coordination of Regional Surveys

The regional surveys were reviewed and coordinated and the program set forth is believed to be a conservative estimate of the facilities and services needed in the period 1958–62 to provide adequately for the rehabilitation of existing facilities, the construction of needed new facilities, and the year-to-year job of administration and maintenance.

TABLE 1.—*Recreation visits and predictions of use, calendar years 1946–62*

Forest Service Regions	Visits (thousands)			Rate of increase 1946–55 (percent)	Predicted visits in 1962 (thousands)
	1946	1950	1955		
Northern	755	1, 196	1, 863	148	3, 000
Rocky Mountain	2, 038	3, 930	7, 182	252	9, 500
Southwestern	813	1, 602	3, 546	340	6, 000
Intermountain	3, 068	4, 281	6, 105	98	8, 600
California	3, 913	3, 695	7, 715	98	12, 100
Pacific Northwest	2, 186	3, 078	5, 186	138	7, 500
Eastern	2, 406	2, 205	2, 897	20	4, 000
Southern	1, 159	4, 382	6, 322	445	8, 700
Lake States	1, 812	2, 826	4, 464	146	6, 200
Alaska	37	102	262	610	400
Total	18, 187	27, 297	45, 542	250	66, 000

7. Calculation of Camp and Picnic Facilities Needed To Accommodate Present and Predicted Use

The calculation of camp and picnic facilities needed is based on the following facts and assumptions:

a. Man-days' use at camp and picnic areas rather than visits is the proper measure of need at camp and picnic areas.

b. In 1955, with 45.7 million visits to the national forests the camp and picnic areas received 24.5 million man-days' use.

It is assumed that the predicted 55 million visits in 1958 and the 66 million visits in 1962 will result in a proportionate increase in the number of man-days' use of camp and picnic areas. On the basis of 1955 figures, man-days' use of camp and picnic areas will exceed 35 million in 1962.

c. The average family-sized unit could actually accommodate 8 to 10 persons, but such heavy use is undesirable and results in crowding and damage to the area. A desirable capacity for a family group is five, and that figure is used to calculate safe capacity of camp and picnic areas.

d. Family-sized units in camp and picnic areas are planned to be 100 feet apart in order to preserve the forest cover and give people privacy and a sense of being in the forest. When areas are overcrowded, either by doubling up at units or by persons camping or picnicking in between units, the ground cover is damaged, screening shrubs and young trees are destroyed, ground compaction is increased, dust becomes a menace, and the entire area suffers. Sanitary facilities are also used in excess of capacity.

On the basis of these assumptions it was concluded

TABLE 2.—*Visits, man-days' use, and family-unit facilities at camp and picnic areas, 1955–62*

Year	Total visits, actual or expected (millions)	Camp and picnic man-days' use (millions)	Camp and picnic family units needed for safe use (number)	Camp and picnic family units existing (number)	Overload (percent)	New family units needed (number)
1955	45. 7	24. 5	57, 700	41, 400	39	16, 300
1958	55. 0	29. 5	69, 500	[1] 43, 000	61	26, 500
1962	66. 0	35. 4	83, 500	[2] 83, 500		([3])

[1] It is estimated that 1,600 units (making a total of 43,000) will be constructed by 1958 with funds available at fiscal year 1957 rate.

[2] 40,500 units must be constructed between 1958 and 1962 to accommodate the predicted use.

[3] As this program is carried out the facilities available in 1962 should be adequate to carry the predicted 1962 use. After 1962, it will be necessary to construct additional units each year to accommodate further expanding use.

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The lure of unposted, unfenced forests and streams accounts for almost one-fourth of all recreation visits to the national forests

that the capacity of camp and picnic areas should be calculated on the basis of five persons per family unit and that the safe capacity should be 85 percent of the maximum capacity. Use of such volume can be accommodated without damage to the area and will enable people to enjoy the forest environment. On this basis one family-sized unit is needed to accommodate 425 man-days' use in a 100-day season.

The facilities needed to accommodate present and future needs at camp and picnic areas, based on the above, are shown in table 2.

The primary interest of recreation visitors to the national forests is shown in table 3 for several years between 1934 and 1955. In 1955 almost 7 million visitors to the national forests were recorded at campgrounds and over 12 million at picnic areas. Of the total 45.7 million visits in 1955, over 12 million were accounted for by hunters and fishermen.

TABLE 3.—*Recreation visits to national forests by primary interests, specified years, 1934–55*

(1) Year	(2) Camp-grounds	(3) Picnic areas	(4) Winter sports	(5) Hotels and resorts	(6) Summer homes	(7) Other forest areas [1]	(8) Total	(9) Hunters and fishermen [2]
Fiscal year:								
1934	2, 343, 132	4, 610, 171	----------	1, 014, 008	613, 495	----------	8, 580, 806	----------
1937	2, 836, 040	5, 973, 930	----------	2, 165, 329	857, 359	----------	11, 832, 658	4, 120, 503
Calendar year:								
1940	3, 583, 091	7, 931, 485	1, 538, 432	2, 257, 548	852, 411	----------	16, 162, 967	4, 525, 629
1943	1, 095, 212	2, 050, 384	266, 765	679, 863	244, 385	1, 938, 050	6, 274, 659	----------
1946	3, 055, 114	4, 458, 748	1, 249, 200	2, 286, 107	713, 380	6, 478, 128	18, 240, 677	4, 216, 472
1949	3, 837, 010	7, 659, 234	1, 712, 607	1, 929, 597	615, 242	10, 326, 565	26, 080, 255	7, 160, 817
1952	4, 527, 979	9, 515, 926	1, 758, 073	2, 500, 196	670, 632	14, 034, 079	33, 006, 885	8, 915, 984
1955	6, 796, 706	12, 418, 342	2, 977, 220	3, 230, 860	863, 332	19, 426, 408	45, 712, 868	12, 342, 410

[1] Wilderness areas, organization camps, and other forest areas.
[2] Included in total, column 8.

8. Cost Estimate for Program

The following lists the major cost elements considered, and their derivation:

a. *Development costs for new areas.*—Camp and picnic area development includes preparation of the site, removal of hazardous trees, traffic control barriers, sanitary facilities, water systems, tables, fire grates, parking spurs, and tent and trailer sites. A family unit, consisting of table, fire grate, and parking spur, is the measure of the capacity of the area.

The cost per unit naturally varies somewhat with topography and locality, but the big variable is the cost of providing safe water. In many localities substantial, modernized water systems, including chlorination, are necessary. The average cost of developing new camp and picnic family units included in this program is estimated to be $860 per unit. Recent experience correlated with unit costs reported by States and the National Park Service for similar developments indicates this is a reasonable unit cost.

b. *Rehabilitation costs.*—A condition survey of existing areas shows that $370 per family unit is needed for rehabilitation of existing facilitis and to provide modernied water and sanitary facilities. This is about 43 percent of the estimated cost of a new family unit. Since the areas average about 20 years old and available funds have for many years been less than one-half the amount needed, the estimate appears reasonable. Depreciation on the types of improvements on these areas is estimated to be at least 5 percent annually.

c. *Maintenance.*—Unit average annual costs for each class of improvement have been developed and used for many years as a basis for estimates and allotments. They are developed through studies of maintenance standards and the cost for attaining these standards. The annual maintenance cost per family unit is $33 for present facilities and decreases to $23 per family unit with the buildup in new areas requiring less maintenance. This cost is about two-thirds labor

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In many national forests true wilderness conditions, unaltered by man, are preserved

and one-third supplies and materials. It is equivalent to about 3 percent on the capital investment. Experience has shown that for recreation improvements, maintenance costs run considerably higher than for Forest Service administrative structures.

d. *Sanitation and Cleanup.*—The workload allotment base data projected for the increased use through 1962 were used. In this approach, the sanitation and cleanup jobs are described; standards (such as frequency of cleanup in relation to use) are set; and the time for the average well-trained men to do those jobs to that standard is determined.

(1) *Improved Areas.*—These data for improved areas convert to annual costs on the basis of about $30 per family unit or 7 cents per man-day of use. This cost is composed of about 70 percent labor and 30 percent other costs such as transportation, toilet paper, garbage cans, and chlorine.

(2) *Unimproved Areas.*—These data for unimproved areas convert to costs on the basis of about 2.2 cents per man-day use. This is largely labor with a considerable amount of travel time needed to reach these areas for the cleanup job.

e. *Administration, Supervision, and Planning.*—The workload analysis approach was also used for these elements. The many individual tasks were analyzed as to standards of performance and the time necessary to accomplish them. The 1955 workload base and correlated standards were used as a starting point and projections were made for the increasing job. The administration, supervision, and planning item is about 10 percent of the total program. This percentage relationship decreases somewhat as the program increases and will drop further in the years following this 5-year program.

f. *Parking Spurs and Barriers.*—The cost figures for rehabilitation and construction of camp and picnic areas include the cost of individual parking spurs and traffic control barriers along parking areas and roads, but do not include either construction or maintenance costs of access roads, interior roads, or central parking areas.

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Operation Outdoors is being developed in two separate but related parts. Part 1, presented here, is aimed at solving the mounting problem of increased family outdoor activity such as picnicking and camping on the national forests. Part 2, to be released at a later date, will deal with improvement and management of wildlife habitat in cooperation with State Fish and Game Departments.

January 1957

WOOD · WATER · FORAGE · WILDLIFE · RECREATION

FOREST SERVICE

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DEPARTMENT OF AGRICULTURE

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National Forest Wildlife

OPERATION OUTDOORS

PART 2

U. S. DEPARTMENT OF AGRICULTURE – FOREST SERVICE

PREFACE . . .

National forests and the national grasslands are great reservoirs of natural resources of tremendous value to the American public. These public lands consist of 185 million acres of forest, range, and watershed lands in 41 States. They contain about one-third of the Nation's standing sawtimber, give rise to many streams, provide homes for a third of the big game, and offer one of the largest accessible areas of unposted hunting, fishing, and recreation land in the country. For America's industry and people, they are major sources of wood, water, forage, and recreation.

Administered by the Forest Service, U.S. Department of Agriculture, the national forest system, consisting of national forests and national grasslands, is managed under the conservation principles of multiple use and sustained yield. Hereafter, for simplicity, all mention of the national forests in this bulletin refers also to the national grasslands.

Part 1 of Operation Outdoors, published in January 1957, presented a 5-year program for the development of national forest recreational facilities. Then in March 1959, a "Program for the National Forests" was sent to Congress. This program—Operation Multiple Use—outlines long-range objectives and short-term proposals to accelerate the management of all national forest resources.

Part 2 of Operation Outdoors, presented here, explains in greater detail the short-term wildlife habitat management objectives outlined in the program for the national forests. It describes the size and nature of the problem and provides for fully coordinating wildlife needs with all other national forest resource management activities and for the expansion of cooperative wildlife work with the States. It sets forth objectives toward which the Department of Agriculture will advance as rapidly as possible within the overall budgetary requirements of the Federal Government and the States.

Part 2 is another forward-looking plan that the Department of Agriculture presents as a part of its program for the national forests—"Operation Multiple Use."

WHY WE BELIEVE IN PART 2

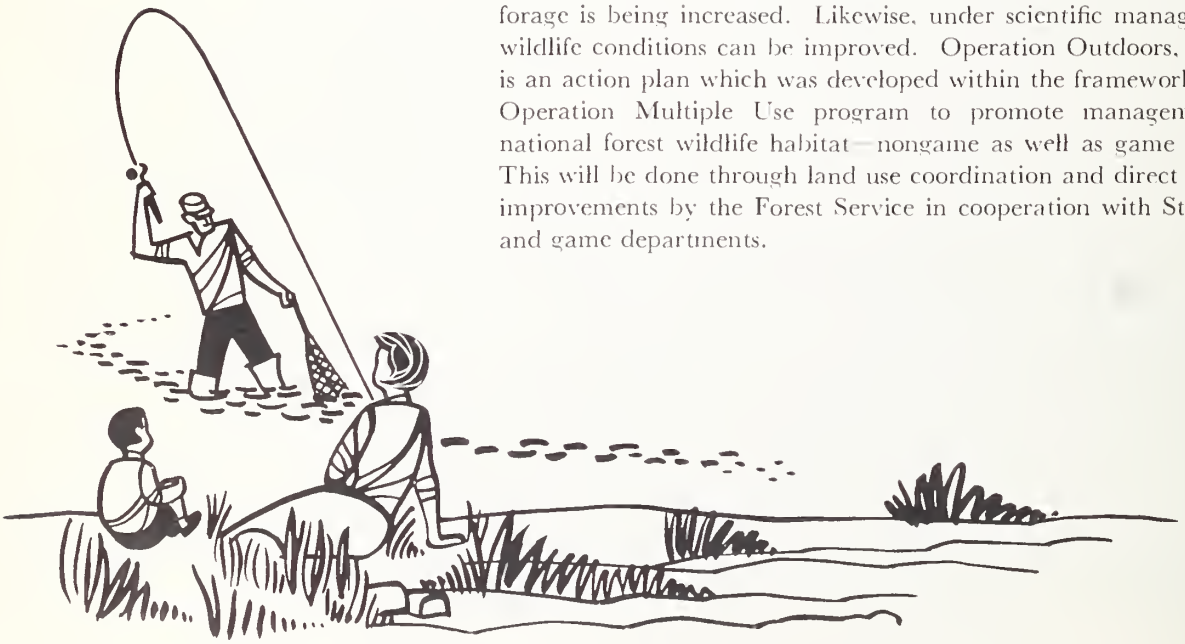
We are living in an atomic age—an age of specialization and mounting pressures. The tensions of modern high-speed living compel periods of rest and relaxation. This modern-day stress has induced more Americans to fish and hunt during the past few years than in any other period of history.

The Forest Service manages 152 national forests and 22 national grassland areas where everyone is welcome to hunt and fish. They contain 81,000 miles of fishing streams and nearly 2 million acres of lakes. In 1959 there were over 20 million visits to these areas for the primary purpose of hunting and fishing. Additional millions enjoyed photographing and observing wildlife in its natural environment.

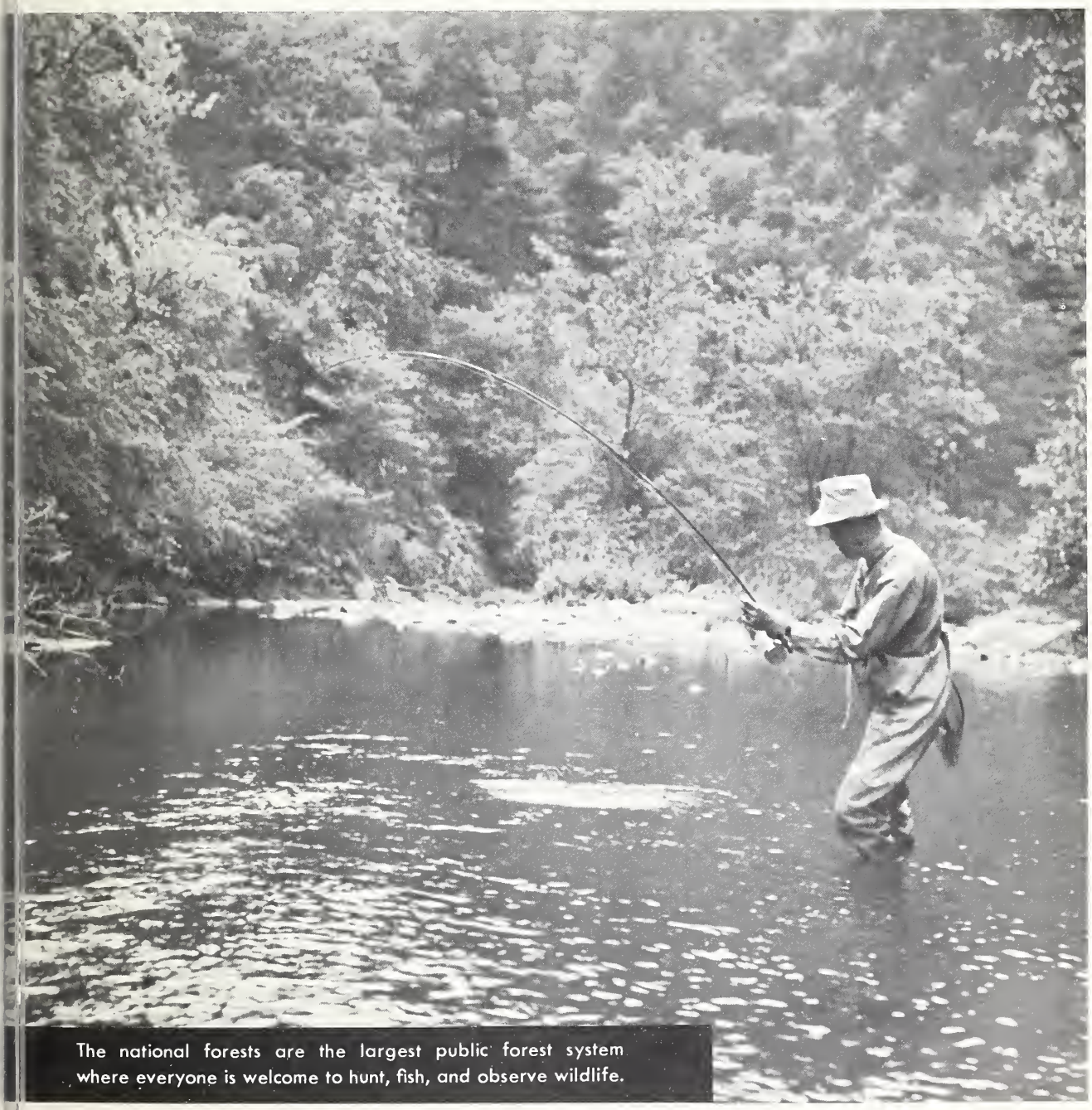
Within the national forests and along the streams and lakeshores, one finds, side by side, the executive and the mechanic, the banker and farmer, husbands and wives, young folks and old folks. These are the outdoor enthusiasts—a cross section of America.

Nationwide, there is a hunter or fisherman in every third household. They spend more than 3 billion dollars each year for equipment and services.

Public use of resources of the national forest system is soaring. Under scientific management the production of wood, water, and forage is being increased. Likewise, under scientific management, wildlife conditions can be improved. Operation Outdoors, part 2, is an action plan which was developed within the framework of the Operation Multiple Use program to promote management of national forest wildlife habitat—nongame as well as game species. This will be done through land use coordination and direct habitat improvements by the Forest Service in cooperation with State fish and game departments.



OPERATION OUTDOORS



The national forests are the largest public forest system where everyone is welcome to hunt, fish, and observe wildlife.

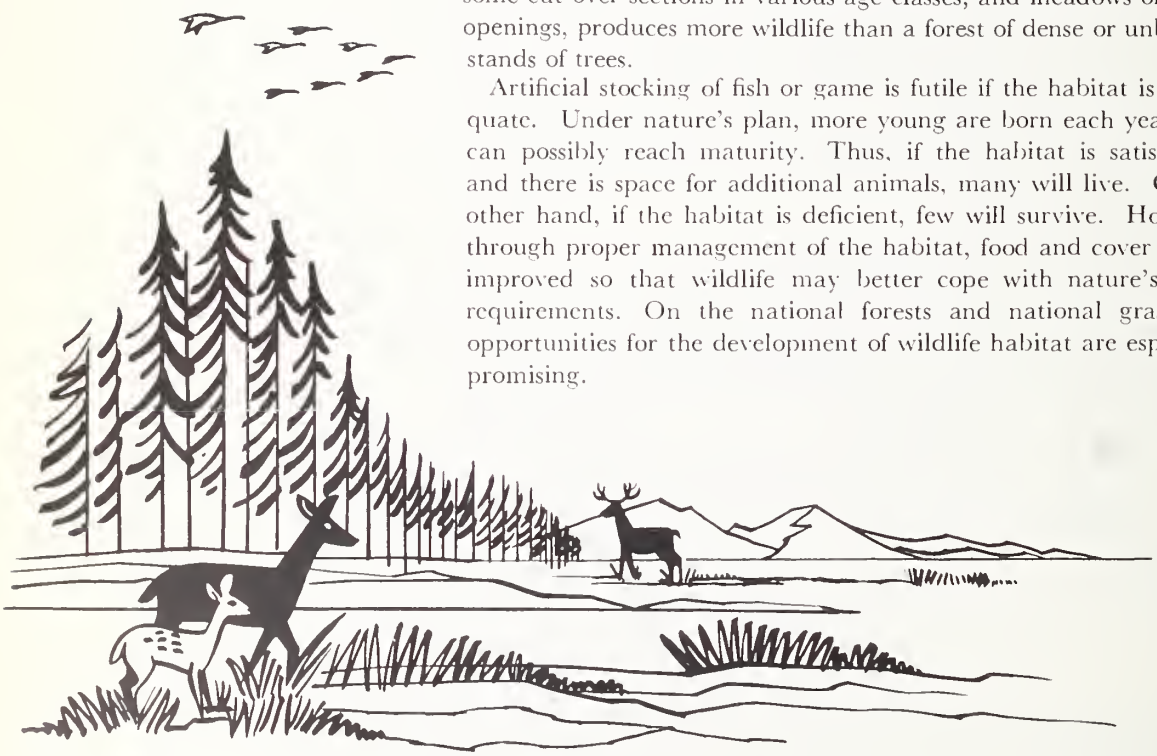
F-446052

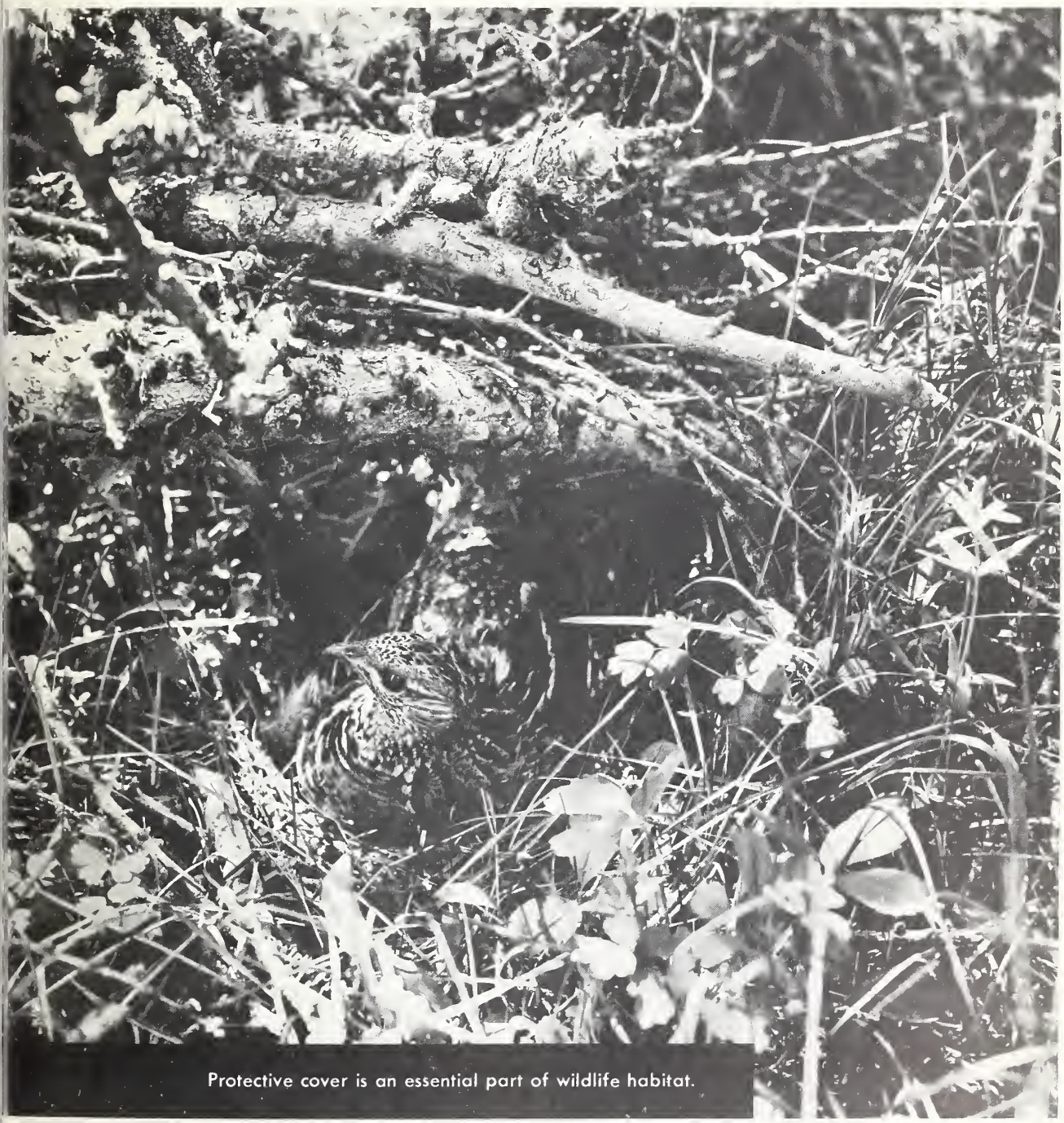
WILDLIFE HABITAT IS IMPORTANT

Habitat is the common denominator for wildlife populations. An animal's home must provide water, food, and cover. Moreover, it must be of the right kind and sufficiently abundant and accessible to care for the animal's wants throughout the year.

Winter is usually the critical period. Food is often scarce or unobtainable. Many deer herds, for example, have ample habitat for all seasons except winter. Restricted by snow and weakened by inadequate food, the herd may lose more animals from starvation than are removed by hunters. Although each kind of animal has rather specific habitat requirements, our more common game species prefer an intermingling of brushfields, grasslands, and forests. Here rabbits, grouse, quail, deer, and other wildlife easily find a variety of food and cover. Here they can live in a comparatively small area with a minimum of exposure to enemies and the weather. Usually a managed forest that contains old growth, some cut-over sections in various age classes, and meadows or other openings, produces more wildlife than a forest of dense or unbroken stands of trees.

Artificial stocking of fish or game is futile if the habitat is inadequate. Under nature's plan, more young are born each year than can possibly reach maturity. Thus, if the habitat is satisfactory and there is space for additional animals, many will live. On the other hand, if the habitat is deficient, few will survive. However, through proper management of the habitat, food and cover can be improved so that wildlife may better cope with nature's harsh requirements. On the national forests and national grasslands opportunities for the development of wildlife habitat are especially promising.





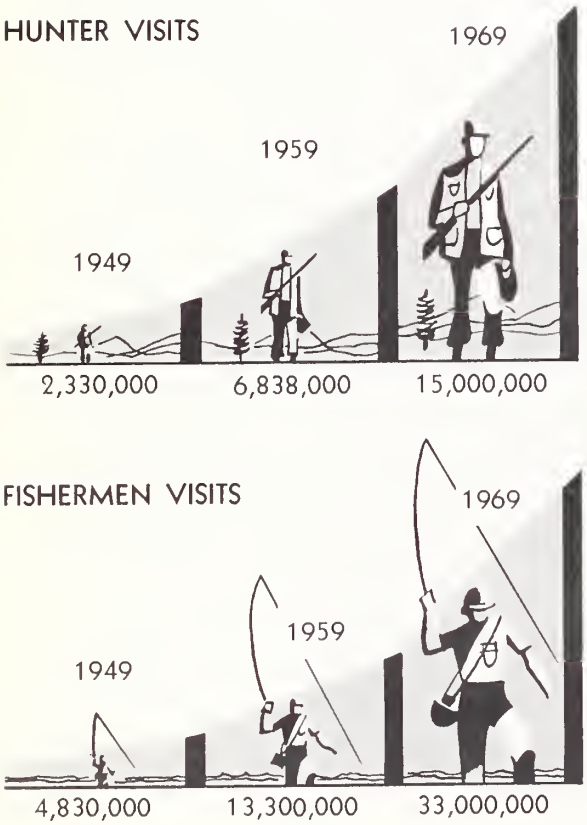
Protective cover is an essential part of wildlife habitat.

F-375580

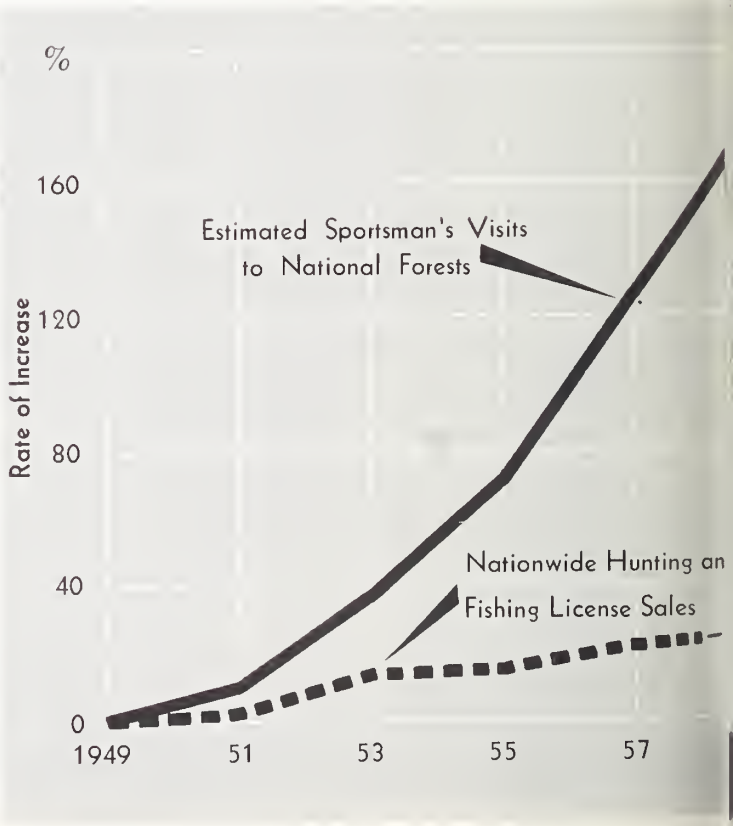
NATIONAL FOREST WILDLIFE HABITAT IS VITAL

Wildlife is a public resource. It has a recognized place in national forest land administration. On these public lands a sustained program of wildlife habitat development can be carried out as a regular part of land management.

Wildlife can be produced on virtually every acre of land in the national forest system. Some acres are rich in wildlife, some are not. But in any case, the abundance of wildlife is almost certain to be a reflection of habitat quality. The national forest system encompasses sea-level to alpine conditions and is the natural home for many forms of wildlife. Somewhere in this vast forest system there is suitable habitat for virtually every kind of wildlife found in the United States.



Hunter and fisherman visits to the national forests are rapidly increasing.



Hunter and fisherman visits to national forests since 1949 have increased eight times faster than the nationwide sale of hunting and fishing licenses.

One-third of the big game animals in the United States live all or part of the time in the national forests. This includes four-fifths of the moose, elk, and grizzly bear, and nearly two-thirds of the mule deer, black bear, and bighorn sheep. The relative abundance of small game and fur bearers is noted annually. These observations reveal the importance of the national forest as a habitat for tree squirrels, ruffed grouse, turkey, beaver, and the many other animals. The national forests are also the home of a few rare and vanishing wildlife species for which special management is necessary.

Interest in public lands is illustrated by the heavy recreational use. In 1959, over 81 million visits were made to the national forests. One-quarter of the visits were for the primary purpose of hunting and fishing. Hunter and fisherman visits to national forests since 1949 have increased 8 times faster than the nationwide sale of hunting and fishing licenses.

With proper habitat management, wildlife can be produced on practically every acre of national-forest land.

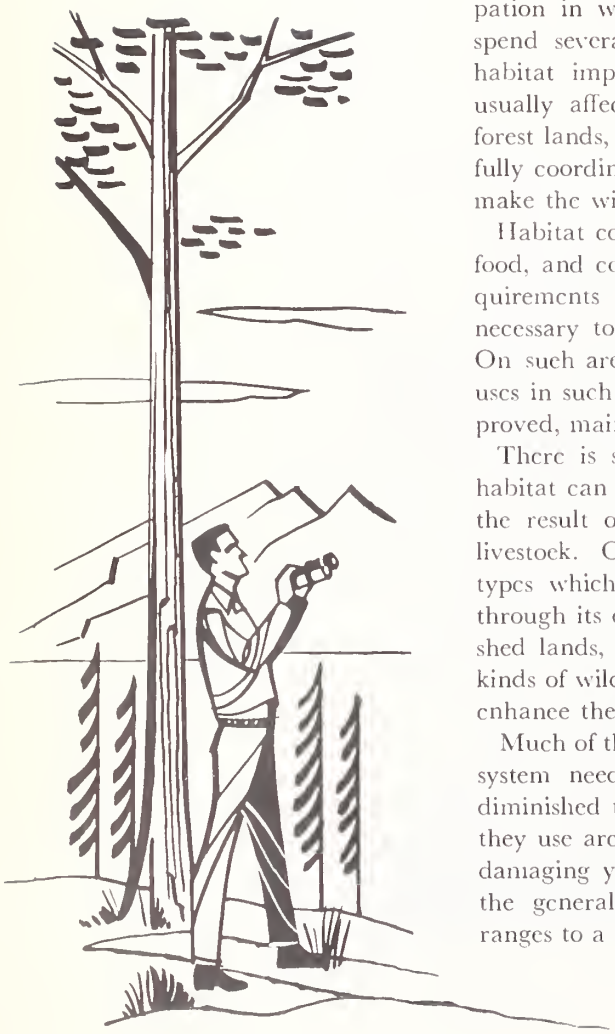
F-425950

WHERE WE STAND

All national forest uses are increasing. The job of coordinating them in a multiple-use program is, therefore, becoming both more important and more complex. It often requires the cooperation of other resource management agencies. This is especially true in wildlife management.

State fish and game laws apply on national forest lands. Thus the State fish and game departments and the Forest Service are partners. The Forest Service manages the land that produces the wildlife. The States protect and utilize the wildlife under individual State laws.

The State fish and game departments are expanding their participation in wildlife activities in the national forest system. They spend several million dollars on wildlife surveys, research, and habitat improvement projects each year. Since these activities usually affect the protection, management, and use of national forest lands, there is a growing need for the Forest Service to more fully coordinate its forest management activities with the States to make the wildlife programs of both agencies fully complementary.



Habitat conditions vary greatly on national forests. The water, food, and cover on some areas are sufficient to meet yearlong requirements of a high-level animal population; hence it is not necessary to take further measures to increase carrying capacity. On such areas, habitat management will consist of realining other uses in such a manner that conditions suitable for wildlife are improved, maintained, or not unduly altered.

There is substantial acreage in national forests where wildlife habitat can be improved. Some of these low-producing areas are the result of logging, forest fires, or overgrazing by big game or livestock. Others are due to the natural development of vegetation types which are unproductive for wildlife. The Forest Service, through its experience in management of forest, range, and watershed lands, has many opportunities to improve conditions for all kinds of wildlife. There are also opportunities to both protect and enhance the fishing on many streams and lakes.

Much of the essential big game winter range in the national forest system needs improvement. On some ranges forage plants are diminished to the point where both the game herds and the lands they use are adversely affected. In other places, deer and elk are damaging young trees needed for future timber crops. Although the general conditions are known, progress in restoring these ranges to a productive condition needs to be accelerated.

Many miles of national forest streams are not at their potential fish production capacity. Intensive land use in some areas has resulted in excessive stream siltation, unstable channels, and exposed and eroding banks. Improved fishing conditions will come about only through fully coordinated land management practices.

Additional personnel are needed to provide the leadership and training that is necessary if national forest wildlife habitat management is to keep pace with the rising demand for public hunting and fishing areas and the States' wildlife management programs. Technical leadership in wildlife habitat management in the Forest Service has been provided by a few wildlife specialists. Theirs is an important task for the wildlife job affects and is affected by all activities on the national forests. If the guidance of wildlife specialists is lacking, much of the wildlife habitat could be seriously damaged by inadequate coordination of other land uses.

TABLE 1. NATIONAL FOREST ACTIVITIES THAT AFFECT WILDLIFE HABITAT MANAGEMENT ARE INCREASING

National forest business	1950	1960	Increase
Timber cut, thousand board feet	3,502,000	9,367,000	167%
Reforestation, acres	45,000	112,000	149%
Timber stand improvement, acres	600,000	960,000	60%
Insect control (aerial spraying), acres	250,000	1,000,000	300%
Range revegetation, acres	63,000	272,000	332%
Roads constructed, miles	1,405	4,727	236%
Special use permits in effect	49,806	58,429	17%
Oil, gas, and mineral leases; Federal Power Commission licenses	2,478	12,768	415%
Recreation visits	26,080,000	81,521,000	213%
Sportsman visits	7,161,000	20,138,000	181%

THE PROGRAM

To keep up with the rapidly increasing use of national forests and with the States' wildlife management programs, part 2 of Operation Outdoors is proposed. This will enable the Forest Service to advance wildlife habitat management by expanding: (1) coordination of wildlife needs with all other national forest uses, (2) cooperation with State fish and game departments in all wildlife development programs involving national forest lands, and (3) improvement of wildlife habitat through direct development projects.

WHAT WE WILL DO THROUGH COORDINATION AND COOPERATION

National forests and grasslands are managed under the multiple-use and sustained-yield principles. Practically all areas serve more than one purpose or objective. Each of these land uses affects wildlife in one way or another. Some of the impacts are great—some are small. In turn, wildlife must be so managed as to maintain or improve other equally important forest resources. Hence coordination of uses is essential in wildlife habitat management.

Coordinating Multiple Use

Timber sales create opportunities for wildlife habitat improvement. Selective cutting, or clear cutting in small blocks, opens dense timber stands. Food and cover plants are stimulated. To realize the greatest benefits to wildlife, adjustments are made in timber harvesting plans. Winter cutting may provide additional food on deer ranges during this critical period. Leaving small clumps of conifers provides shelter for wildlife; cutting in long narrow strips increases the amount of "edge" cover and food; and leaving mast and den trees in hardwood cuttings protects the habitat of squirrels and other small game.

Forest roads can be located in such a way that they will contribute to orderly harvest of fish and game through better distribution of hunters and fishermen. Roads should be located away from streams and meadows. They should be adequately drained to prevent damage to fishing waters; road edges, cut banks, and fills can be seeded with soil-binding plants. Culverts should not interfere with fish movements.

In arid parts of the West, development of livestock watering places has extended the distribution of deer, turkey, grouse, and quail. A fence around a seep or spring will protect the water supply and provide nesting and escape cover for song and game birds. Range seeding can be planned to improve habitat for wildlife as well as domestic livestock by including legumes, palatable browse, and other important wildlife food plants in seeding mixtures.

This coordination is possible without impairing the other forest values—timber, grazing, water, scenery, recreation.

Wildlife habitat is improved when openings are created in dense forests.

F-478813

Cooperation With States

Basic to any program for wildlife management on the national forests are cooperative surveys of existing conditions to determine deficiencies or limiting factors in the existing habitat. These State-Forest Service surveys classify the condition and trend of key wildlife ranges and waters; determine the production and utilization of food supplies; estimate the carrying capacity of wildlife habitats; and consider possible habitat improvements, whether attainable through coordination with other uses or through direct improvement projects. On the basis of these surveys, plans will be developed to accomplish orderly development of wildlife habitat.

The States will continue to finance many habitat improvement projects on national forests. This is desirable and is encouraged. The Forest Service, in turn, has a responsibility to work with the States so that all non-federally financed habitat improvements are properly designed and located, and in harmony with the overall management of the national forest lands. This cooperation will include planning and engineering assistance and inspection.

Coordination and Cooperation Highlights

1. *Administer and Supervise* wildlife habitat management activities with special emphasis on coordination with other national forest resources. This includes:

- Coordinating wildlife habitat requirements with timber, range, recreation, watershed, and other resource management activities; followup inspection to insure that wildlife habitat values are given proper consideration in all Forest Service activities
- Training of rangers and field personnel in wildlife habitat coordination methods and techniques
- Revising and completing wildlife habitat management and improvement plans for all administrative units, assuring proper coordination between wildlife habitat management and other resources

2. *Inventory and Evaluate* wildlife habitat resources in cooperation with other Federal agencies and with the States in which national forests and grasslands are located, as a basis for orderly development of wildlife habitat improvement and coordination programs. This includes:

- Big game, game-bird, and small game habitat surveys and investigations on the 185 million acres of national forest lands
- Fishery habitat surveys and investigations on the 81,000 miles of national forest fishing streams and approximately 2 million acres of lakes and impoundments
- Participation in planning, inspection, and control phases of all habitat improvement, land and water-use projects conducted on national forest lands by States, other Federal agencies, and private groups to assure that projects will benefit wildlife and be in harmony with other resource values

The estimated annual cost of the recurrent coordination, administration, and cooperation work outlined above is $2,980,000.

Seeding abandoned logging roads controls erosion and provides food for wildlife.

F-471008

WHAT WE WILL DO THROUGH PROJECT WORK

There are many opportunities for direct wildlife habitat improvement on the national forests. Food and cover deficiencies can often be improved by breaking up brushfields, creating clearings, planting desirable food and cover plants, fencing stream bottoms, and developing marshlands. Where water supplies are deficient or poorly distributed, additional water can often be developed by building ponds, developing seeps and springs, drilling wells, or installing "guzzlers."

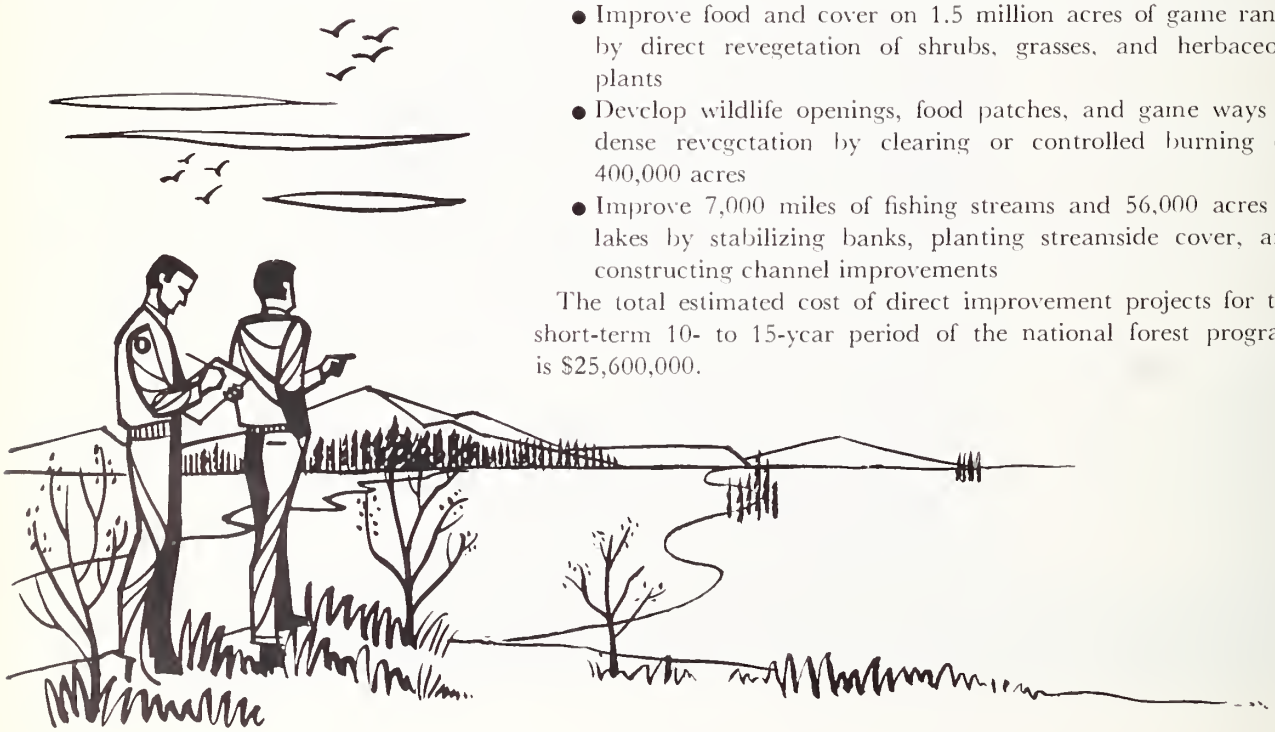
Fish habitat can be made more productive by streambank plantings, stabilizing stream channels, developing flow maintenance facilities, installing simple log or rock structures in channels, and by constructing small water impoundments. In recent years, State fish and game departments have furthered such developments. It is expected that the States will continue to finance structural improvements on the national forests.

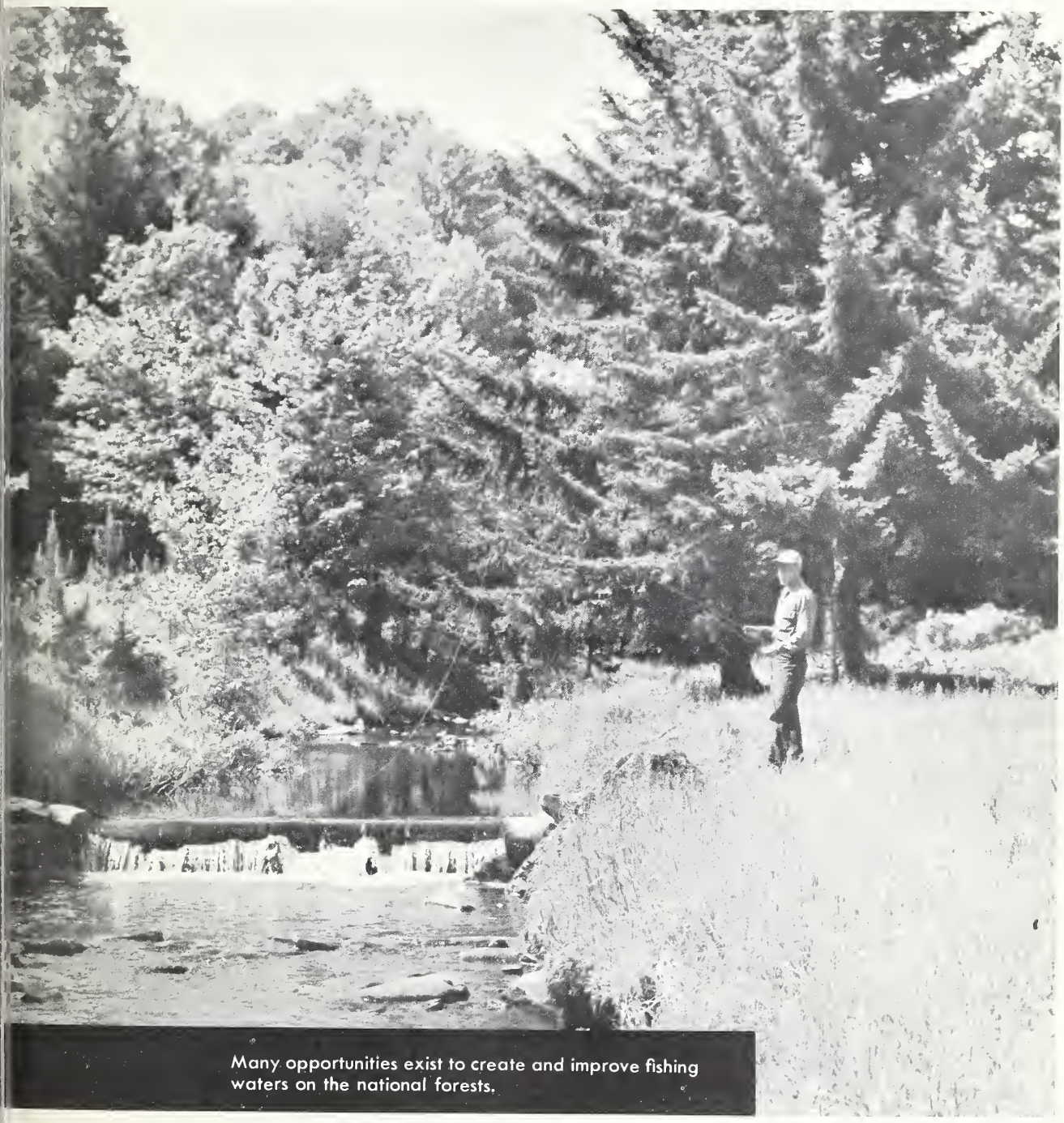
Project Highlights

Wildlife habitat improvement projects involving direct management of food and cover to improve key wildlife areas that will not be fully developed through other resource management activities.

- Improve food and cover on 1.5 million acres of game range by direct revegetation of shrubs, grasses, and herbaceous plants
- Develop wildlife openings, food patches, and game ways in dense revegetation by clearing or controlled burning on 400,000 acres
- Improve 7,000 miles of fishing streams and 56,000 acres of lakes by stabilizing banks, planting streamside cover, and constructing channel improvements

The total estimated cost of direct improvement projects for the short-term 10- to 15-year period of the national forest program is $25,600,000.





Many opportunities exist to create and improve fishing waters on the national forests.

F-478743

HOW THE ESTIMATES WERE DEVELOPED

The coordination, cooperation, and administration cost estimates are based on an analysis of all Forest Service wildlife management tasks. Standards of work performance and time allowances have been established or estimated for each of these tasks.

The cooperative and administrative aspects of part 2, Operation Outdoors, will expand as State and sportsman activities on the national forests increase. The coordination task will become more difficult as the Nation's need for timber, forage, water, roads, and outdoor recreation grows.

Direct habitat improvement cost estimates are based on high priority projects selected from the wildlife section of the 1958 Project Work Inventory. This inventory is a comprehensive survey of needed work projects covering all fields of activity. It is a work reservoir from which projects are drawn as national and local needs dictate.

The project work estimates for Operation Outdoors, part 2, have been developed from a background of cooperation with State game and fish departments. State and Forest Service responsibilities in wildlife work have been jointly reviewed and general policy guidelines endorsed. In brief, the policy guidelines provide that the Forest Service will take leadership in habitat improvement projects that involve the management of the land and the vegetation. The States will take the leadership and primary responsibility for financing construction projects such as dams. Estimates for these cooperative costs are based on current programs and high priority needs for new developments. Close working relations will be maintained with the States in all direct habitat improvement projects.

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OPERATION
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FOREST SERVICE
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DEPARTMENT OF AGRICULTURE

PROGRAM FOR THE NATIONAL FORESTS

UNITED STATES DEPARTMENT OF AGRICULTURE
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Growth Through Agricultural Progress